

IN THE CLAIMS

✓ Please cancel claims 1 - 20 without prejudice.

⌈ Please add the following new claims: ⌋

31. (New) A method comprising:

providing a substrate;

forming a metal layer over said substrate, said metal layer comprising a bond pad and a first member, said bond pad and said first member being separated by a gap;

forming a first material over said bond pad and over said first member, said first material having a low dielectric constant, said first material having a thickness that is sufficient to completely fill said gap;

forming a second material over said first material, said second material being as thin as possible while still preventing moisture penetration;

forming an opening through said second material and said first material to expose a top surface of said bond pad, said opening having sidewalls comprising edges of said second material and said first material;

forming a third material over said second material, said sidewalls of said opening, and said top surface of said bond pad, said third material being conductive, said third material having a thickness sufficient to prevent moisture penetration; and

forming a contact over said opening.

32. (New) The method of claim 31 wherein said gap has a high aspect ratio.

Sub A  
33. (New) The method of claim 32 wherein said high aspect ratio is around 2.0.

34. (New) The method of claim 31 wherein said first material has a dielectric constant of less than 4.0.

35. (New) The method of claim 31 wherein said first material is silicon dioxide.

D1  
36. (New) The method of claim 31 wherein said first material is doped with fluorine atoms to reduce dielectric constant.

Cmt.  
37. (New) The method of claim 31 wherein said second material is hermetic.

38. (New) The method of claim 31 wherein said second material is silicon nitride.

39. (New) The method of claim 38 wherein said silicon nitride has a thickness of between 500 - 1,500 Angstroms.

Sub. F2  
40. (New) A method comprising:  
providing a substrate;

forming a metal layer over said substrate, said metal layer comprising a bond pad and a first member, said bond pad and said first member being separated by a gap;

forming a first material over said bond pad and over said first member, said first material having a low dielectric constant, said first material having a thickness that is sufficient to completely fill said gap;

forming a second material over said first material, said second material being as thin as possible while still preventing moisture penetration;

forming a third material over said second material, said third material providing stress relief between said substrate and a package, said third material providing scratch protection for said second material;

forming an opening through said third material, said second material, and said first material, to expose a top surface of said bond pad, said opening having sidewalls comprising edges of said third material, said second material, and said first material;

forming a fourth material over said third material, said sidewalls of said opening, and said top surface of said bond pad, said fourth material being conductive, said fourth material having a thickness sufficient to prevent moisture penetration; and

forming a contact over said opening.

41. (New) The method of claim 40 wherein said third material is a photodefinable polyimide.

42. (New) The method of claim 41 wherein said photodefinable polyimide has a thickness of between 2.0 - 10.0 microns.

43. (New) The method of claim 40 wherein said third material is a CVD deposited silicon dioxide.

44. (New) The method of claim 41 wherein said sidewalls of said opening are tapered in said third material.

45. (New) The method of claim 44 wherein said tapered sidewalls enhance subsequent film deposition.

46. (New) The method of claim 40 wherein said fourth material comprises a lower 500 Angstroms thick titanium film.

47. (New) The method of claim 46 wherein said fourth material further comprises an upper 4,000 Angstroms thick nickel vanadium film.

48. (New) The method of claim 47 wherein said contact comprises a bump.

49. (New) The method of claim 48 wherein said bump comprises an electroplated C-4 solder bump.

50. (New) The method of claim 49 wherein said C-4 solder bump has a height of approximately 100 microns.

51. (New) The method of claim 46 wherein said fourth material further comprises an upper gold film.

52. (New) The method of claim 51 wherein said contact comprises a bump.

53. (New) The method of claim 52 wherein said bump comprises a gold plated TAB bump.

54. (New) The method of claim 53 wherein said gold plated TAB bump has a height of approximately 27 microns.